

L Number	Hits	Search Text	DB	Time stamp
1	2	6270640.pn.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/24 04:46
7	2	5770084.pn.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/24 04:50
13	2	6090250.pn.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/24 04:50
19	2	6013738.pn.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/24 04:56
25	358	micelle and dipeptide	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/24 04:56
31	38	micelle and dipeptide and chiral	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/24 04:56
37	31	micelle and dipeptide and chiral and polymer	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/24 04:57
43	17	micelle and dipeptide and chiral and polymer and valine	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/24 04:57
49	15	micelle and dipeptide and chiral and polymer and valine and leucine	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/24 04:57
55	15	micelle and dipeptide and chiral and polymer and valine and leucine and surfactant	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/24 04:57
61	2	micelle and dipeptide and chiral and polymer and valine and leucine and surfactant and undecylenyl	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/24 04:58
67	2	micelle and dipeptide and undecylenyl	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/24 04:58
73	146	undecylenyl	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/24 04:58
79	3	undecylenyl and dipeptide	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/24 04:58
85	4	undecylenyl and micelle	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/24 04:59
91	0	undecylenyl and 530/415.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/24 04:59
97	0	undecylenyl and 514/44.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/24 04:59

103	2	undecylenyl and 204/451.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/24 05:00
109	4	undecylenyl and 210/635.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/24 05:00
115	0	undecylenyl and 525/426.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/24 05:00
-	2	6270640.pn.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/03/24 02:02
-	1	6270640.pn. and hydrocarbon	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/02/26 09:33
-	1	6270640.pn. and undecylenyl	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/02/26 09:33

Set	Items	Description
S1	1241	AU=(WARNER I? OR WARNER, I?)
S2	100	AU=(BILLIOT E? OR BILLIOT, E?)
S3	468	AU=(SHAMSI S? OR SHAMSI, S?)
S4	99	AU=(THIBODEAUX S? OR THIBODEAUX, S?)
S5	1575	S1:S4
S6	107	S5 AND MICELLE
S7	27	S6 AND DIPEPTIDE
S8	1	S7 AND UNDECYLENYL
S9	22147	7 AND CHIRAL
S10	26	S7 AND CHIRAL
S11	11	S10 AND SURFACTANT
S12	8	S11 AND POLYMER
S13	0	S12 AND VALINE
S14	0	S12 AND LEUCINE
S15	9	S11 NOT S4
?		

*0 Hits*

T S8/3,K/ALL

>>>KWIC option is not available in file(s): 399

8/3,K/1 (Item 1 from file: 155)

DIALOG(R)File 155:MEDLINE(R)

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08998178 20290490 PMID: 10832893

**Chiral separation with dipeptide-terminated polymeric surfactants: the effect of an extra heteroatom on the polar head group.**

Haynes J L; Billiot E J; Yarabe H H; Warner I M; Shamsi S A

Department of Chemistry, Louisiana State University, Baton Rouge 70803, USA.

Electrophoresis (GERMANY) May 2000, 21 (8) p1597-605, ISSN 0173-0835 Journal Code: 8204476

Contract/Grant No.: GM17780; GM; NIGMS; GM39844; GM; NIGMS

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

**Chiral separation with dipeptide -terminated polymeric surfactants: the effect of an extra heteroatom on the polar head group.**

Haynes J L; Billiot E J; Yarabe H H; Warner I M; Shamsi S A

...and three benzodiazepines were studied by use of polymeric surfactants in electrokinetic chromatography. Four specific dipeptide terminated (multichiral) micelle polymers were synthesized for this study. These include poly (sodium-N-undecanoyl-L-alanyl-leucinate...

... leucinate) (poly L-SUTL). In addition to the chiral separation study, the physicochemical properties (critical micelle concentration and specific rotation) of each polymer were investigated. The molecular weights of the various dipeptide -terminated micelle polymers were determined using analytical ultracentrifugation. These dipeptide -terminated micelle polymers were designed to study the effect of the extra heteroatom at the polar head group of the micelle polymer (i.e., poly L-SUSL compared to poly L-SUAL and poly L-SUTL...

... three chiral centers (poly L-SUTL) provided improved resolution over that of two chiral centered dipeptide -terminated micelle polymer in the case of (+/-)-temazepam, (+/-)-oxazepam, (+/-)-binaphthol, and (+/-)-binaphthol phosphate. The chiral recognition mechanisms...

... by the presence of the extra heteroatom located on the polar head group of the micelle polymers.

Chemical Name: Anti-Anxiety Agents, Benzodiazepine; Dipeptides; Polyethylenes; Polymers; Surface-Active Agents; sodium N- undecylenyl -valine-leucine

?

T S11/3,K/ALL

>>>KWIC option is not available in file(s): 399

**11/3,K/1 (Item 1 from file: 5)**  
DIALOG(R)File 5:Biosis Previews(R)  
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13247786 BIOSIS NO.: 200100454935

**Polymerized oligopeptide-surfactant chiral micelles.**

AUTHOR: Warner Isiah M(a); Billiot Eugene J; Shamsi Shahab A; Thibodeaux Stefan J

AUTHOR ADDRESS: (a)Baton Rouge, LA\*\*USA

JOURNAL: Official Gazette of the United States Patent and Trademark Office  
Patents 1249 (1):pNo Pagination Aug. 7, 2001

MEDIUM: e-file

ISSN: 0098-1133

DOCUMENT TYPE: Patent

RECORD TYPE: Abstract

LANGUAGE: English

**Polymerized oligopeptide- surfactant chiral micelles.**

AUTHOR: Warner Isiah M ...

... Billiot Eugene J ...

... Shamsi Shahab A ...

... Thibodeaux Stefan J

ABSTRACT: Chiral separations can be enhanced through the use of polymerized dipeptide - surfactant or oligopeptide- surfactant chiral micelles. Because polymerized micelles eliminate much of the complex dynamic behavior associated with conventional micelles, polymerized chiral micelles have stronger chiral recognition properties than do otherwise-identical, "conventional" or non-polymerized chiral micelles. Recovery of chiral ligands from polymerized chiral micelles is often easier, as the chiral ligands may typically be recovered by simple extraction with an appropriate organic solvent. By contrast...

...extraction with an organic solvent frequently results in the formation of troublesome emulsion systems. Polymerized chiral micelle systems are therefore beneficial in both preparative-scale and process-scale separations. Polymerized chiral micelles have no critical micelle concentration, allowing lower concentrations to be used in micellar electrokinetic capillary chromatography, which in turn reduces the otherwise deleterious heat that can be generated. Many polymerized dipeptide - surfactant or oligopeptide- surfactant chiral micelles have superior separation properties as compared to polymerized amino acid- surfactant chiral micelles.

DESCRIPTORS:

CHEMICALS & BIOCHEMICALS: dipeptide --...

... surfactant ; ...

... surfactant

METHODS & EQUIPMENT: polymerized oligopeptide- surfactant chiral micelles...

**11/3,K/2 (Item 1 from file: 34)**  
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci  
(c) 2003 Inst for Sci Info. All rts. reserv.

11362884 Genuine Article#: 642DH No. References: 28

**Title: Polysodium N-undecanoyl-L-leucylvalinate: A versatile chiral selector for micellar electrokinetic chromatography**

Author(s): Shamsi SA; Valle BC; Billiot F; Warner IM (REPRINT)

Corporate Source: Louisiana State Univ, Dept Chem, Baton Rouge//LA/70803

(REPRINT); Louisiana State Univ, Dept Chem, Baton Rouge//LA/70803;

Georgia State Univ, Dept Chem, Ctr Biotechnol & Drug

Design, Atlanta//GA/30303

Journal: ANALYTICAL CHEMISTRY, 2003, V75, N3 (FEB 1), P379-387

ISSN: 0003-2700 Publication date: 20030201

Publisher: AMER CHEMICAL SOC, 1155 16TH ST, NW, WASHINGTON, DC 20036 USA

Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

**Title: Polysodium N-undecanoyl-L-leucylvalinate: A versatile chiral selector for micellar electrokinetic chromatography**

Author(s): Shamsi SA ; Valle BC; Billiot F; Warner IM (REPRINT)

Abstract: Dipeptide micelle polymers are a new class of polymeric surfactants of which the polysodium undecanoyl-L-leucylvalinate (poly-L-SULV) was found to be a broadly applicable chiral selector for micellar electrokinetic chromatography. This negatively charged dipeptide micelle polymer is a high molecular weight compound with large countercurrent mobility, zero critical micelle concentration, low aggregation number, and high solubility in water or water-organic solvents. In an extensive chiral screening program, enantioseparation of 75 racemic compounds was tested with poly-L-SULV as chiral pseudostationary phase in neutral pH and basic pH background electrolytes. A total of 58 out...

...compounds could be resolved after choosing an appropriate concentration of poly-L-SULV. Although anionic chiral analytes are difficult to resolve using poly-L-SULV, the percent success rate for chiral resolution of cationic (77%) and neutral (85%) racemates was very high. Aspects regarding electrostatic, steric, hydrophobic, and hydrogen-bonding interactions of this dipeptide micelle polymer with various classes of chiral analytes are discussed.

...Identifiers--POLYMERIC DIPEPTIDE SURFACTANTS; IONIZATION MASS-SPECTROMETRY; AMINO-ACID ORDER; CAPILLARY ELECTROPHORESIS; PSEUDOSTATIONARY PHASE; ANIONIC SURFACTANT ; STERIC FACTORS; SEPARATIONS; ENANTIOSELECTIVITY; CENTERS

11/3,K/3 (Item 2 from file: 34)

DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

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11207852 Genuine Article#: 621GH No. References: 38

**Title: Pulsed field gradient NMR investigation of solubilization equilibria in amino acid and dipeptide terminated micellar and polymeric surfactant solutions**

Author(s): Hickok RS; Wedge SA; Hansen AL; Morris KF (REPRINT) ; Billiot FH ; Warner IM

Corporate Source: Carthage Coll, Dept Chem, Kenosha//WI/53140 (REPRINT);

Carthage Coll, Dept Chem, Kenosha//WI/53140; Texas A&M Univ, Dept

Chem, Corpus Christi//TX/78412; Louisiana State Univ, Dept Chem, Baton

Rouge//LA/70803

Journal: MAGNETIC RESONANCE IN CHEMISTRY, 2002, V40, N12 (DEC), P755-761

ISSN: 0749-1581 Publication date: 20021200

Publisher: JOHN WILEY & SONS LTD, BAFFINS LANE CHICHESTER, W SUSSEX PO19

1UD, ENGLAND

Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

**Title: Pulsed field gradient NMR investigation of solubilization equilibria in amino acid and dipeptide terminated micellar and polymeric surfactant solutions**

Author(s): Hickok RS; Wedge SA; Hansen AL; Morris KF (REPRINT) ; Billiot FH

; Warner IM

...Abstract: used to investigate the association of toluene, chlorobenzene and benzyl alcohol with amino acid and dipeptide terminated polymerized surfactants (PS). The diffusion coefficient for each probe was measured in the presence...

...f(b), was calculated. For all solutions investigated, the probes associated more strongly with unpolymerized surfactant micelles than with corresponding PS. For example, the toluene f(b) values for association with...

...and to the fact that these PS have smaller aggregation numbers than the corresponding unpolymerized surfactant micelles. Copyright (C) 2002 John Wiley Sons, Ltd.

...Identifiers--SODIUM DODECYL-SULFATE; PSEUDO-STATIONARY PHASES; ELECTROKINETIC CHROMATOGRAPHY; SELF-DIFFUSION; CHIRAL SEPARATIONS; SPIN-ECHO; MAGNETIC-RESONANCE; SPECTROSCOPY; ASSOCIATION; SELECTIVITY

11/3,K/4 (Item 3 from file: 34)

DIALOG(R)File 34:SciSearch(R) Cited Ref Sci  
(c) 2003 Inst for Sci Info. All rts. reserv.

10134944 Genuine Article#: 489LH No. References: 42

**Title: Micellar electrokinetic chromatography-mass spectrometry using a polymerized chiral surfactant**

Author(s): Shamsi SA (REPRINT)

Corporate Source: Georgia State Univ, Dept Chem, Ctr Biotechnol & Drug Design, 38 Peach Tree Ctr Ave/Atlanta//GA/30303 (REPRINT); Georgia State Univ, Dept Chem, Ctr Biotechnol & Drug Design, Atlanta//GA/30303

Journal: ANALYTICAL CHEMISTRY, 2001, V73, N21 (NOV 1), P5103-5108

ISSN: 0003-2700 Publication date: 20011101

Publisher: AMER CHEMICAL SOC, 1155 16TH ST, NW, WASHINGTON, DC 20036 USA

Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

**Title: Micellar electrokinetic chromatography-mass spectrometry using a polymerized chiral surfactant**

Author(s): Shamsi SA (REPRINT)

Abstract: The coupling of chiral micellar electrokinetic chromatography (CMEKC) to mass spectrometry (MS) using conventional surfactant [above the critical micelle concentration (cmc)] is very challenging. Preliminary investigation in this laboratory indicates that the use of a chiral polymeric surfactant provides one possible solution to this difficult coupling. This is because of many positive attributes of micelle polymers which include zero cmc, lower surface activity, low volatility, high electrophoretic mobility, and function...

...MS parameters (nebulizer pressure, sheath flow rate) were found to have a significant impact on chiral resolution of (+/-)BOH. At the optimum ESI-MS conditions, the enantioseparation of (+/-)BOH was successfully...

...Identifiers--CAPILLARY ZONE ELECTROPHORESIS; AMINO-ACID ORDER; DIPEPTIDE SURFACTANTS; STATIONARY PHASES; RISTOCETIN-A; SEPARATIONS; VANCOMYCIN; CYCLODEXTRINS; ENANTIOMERS; SELECTOR

11/3,K/5 (Item 4 from file: 34)

DIALOG(R)File 34:SciSearch(R) Cited Ref Sci  
(c) 2003 Inst for Sci Info. All rts. reserv.

08478873 Genuine Article#: 290PJ No. References: 99

**Title: Polymeric surfactants as pseudo-stationary phases for separations in electrokinetic chromatography (EKC): A review**

Author(s): Haynes JL; Warner IM

Corporate Source: LOUISIANA STATE UNIV, DEPT CHEM/BATON ROUGE//LA/70803;  
GEORGIA STATE UNIV, DEPT CHEM/ATLANTA//GA/30303  
Journal: REVIEWS IN ANALYTICAL CHEMISTRY, 1999, V18, N6, P317-382  
ISSN: 0048-752X Publication date: 19990000  
Publisher: FREUND PUBLISHING HOUSE LTD, STE 500, CHESHAM HOUSE, 150 REGENT  
ST, LONDON W1R 5FA, ENGLAND  
Language: English Document Type: REVIEW

Author(s): Haynes JL; Warner IM

...Identifiers--ELECTROPHORESIS MASS-SPECTROMETRY; CAPILLARY ZONE  
ELECTROPHORESIS; ELECTROSPRAY-IONIZATION INTERFACE; TERMINAL  
DOUBLE-BOND; CHIRAL SEPARATIONS; PSEUDOSTATIONARY PHASE; STARBURST  
DENDRIMERS; IONIC SURFACTANT ; MICELLE POLYMERS; LIQUID-JUNCTION

11/3,K/6 (Item 5 from file: 34)

DIALOG(R)File 34:SciSearch(R) Cited Ref Sci  
(c) 2003 Inst for Sci Info. All rts. reserv.

08007816 Genuine Article#: 235ZD No. References: 29

**Title: Evaluating chiral separation interactions by use of diastereomeric polymeric dipeptide surfactants**

Author(s): Billiot E; Thibodeaux S; Shamsi S; Warner IM (REPRINT)

Corporate Source: LOUISIANA STATE UNIV, DEPT CHEM/BATON ROUGE//LA/70803

(REPRINT); LOUISIANA STATE UNIV, DEPT CHEM/BATON ROUGE//LA/70803

Journal: ANALYTICAL CHEMISTRY, 1999, V71, N18 (SEP 15), P4044-4049

ISSN: 0003-2700 Publication date: 19990915

Publisher: AMER CHEMICAL SOC, 1155 16TH ST, NW, WASHINGTON, DC 20036

Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

**Title: Evaluating chiral separation interactions by use of diastereomeric polymeric dipeptide surfactants**

Author(s): Billiot E ; Thibodeaux S ; Shamsi S ; Warner IM (REPRINT)

...Abstract: sodium N-undecyl leucine-leucine (poly SULL) is used as a diagnostic tool to investigate chiral molecular interactions via electrokinetic chromatography (EKC). Poly SULL has two chiral centers which are defined by two asymmetric carbons. Each chiral center of poly SULL can have two possible configurations (D or L). Consequently, four different optical configurations are possible within the surfactant molecule (L-L, D-D, L-D, and D-L). In this study, five chiral analytes of various charge states and hydrophobicities were used to investigate the role of electrostatic interactions and hydrophobicity on chiral recognition with polymeric dipeptide surfactants. These studies lead to a proposed hypothesis for interaction of the analytes with dipeptide surfactants. The hypothesis was tested and the contribution of the double chiral centers to this interaction was evaluated by use of two dipeptide surfactants in which one chiral amino acid is replaced by an achiral amino acid glycine, i.e., poly sodium N...

...leucine (poly L-SUGL). The results reported here provide new insights into the mechanism for chiral recognition of select chiral analytes by use of polymeric chiral surfactants.

...Identifiers--ELECTROKINETIC CAPILLARY CHROMATOGRAPHY; PSEUDO-STATIONARY PHASES; MICELLE POLYMERS; BETA-CYCLODEXTRIN; ELECTROPHORESIS; SELECTIVITY; ACIDS; PH

11/3,K/7 (Item 1 from file: 73)

DIALOG(R)File 73:EMBASE

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11957278 EMBASE No: 2003068356

**Polysodium N-undecanoyl-L-leucylvalinate: A versatile chiral selector for**



**micellar electrokinetic chromatography**

Shamsi S.A.; Valle B.C.; Billiot F.; Warner I.M.  
I.M. Warner, Department of Chemistry, Louisiana State University, Baton Rouge, LA 70803 United States  
AUTHOR EMAIL: isiah.warner@chemgate.chem.lsu.edu  
Analytical Chemistry ( ANAL. CHEM. ) (United States) 01 FEB 2003, 75/3 (379-387)  
CODEN: ANCHA ISSN: 0003-2700  
DOCUMENT TYPE: Journal ; Article  
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH  
NUMBER OF REFERENCES: 28

**Polysodium N-undecanoyl-L-leucylvalinate: A versatile chiral selector for micellar electrokinetic chromatography**

Shamsi S.A. ; Valle B.C.; Billiot F.; Warner I.M.

Dipeptide micelle polymers are a new class of polymeric surfactants of which the polysodium undecanoyl-L-leucylvalinate (poly-L-SULV) was found to be a broadly applicable chiral selector for micellar electrokinetic chromatography. This negatively charged dipeptide micelle polymer is a high molecular weight compound with large countercurrent mobility, zero critical micelle concentration, low aggregation number, and high solubility in water or water-organic solvents. In an extensive chiral screening program, enantioseparation of 75 racemic compounds was tested with poly-L-SULV as chiral pseudostationary phase in neutral pH and basic pH background electrolytes. A total of 58 out...

...compounds could be resolved after choosing an appropriate concentration of poly-L-SULV. Although anionic chiral analytes are difficult to resolve using poly-L-SULV, the percent success rate for chiral resolution of cationic (77%) and neutral (85%) racemates was very high. Aspects regarding electrostatic, steric, hydrophobic, and hydrogen-bonding interactions of this dipeptide micelle polymer with various classes of chiral analytes are discussed.

**DRUG DESCRIPTORS:**

polymer; dipeptide ; surfactant ; water; organic solvent; electrolyte; unclassified drug

**MEDICAL DESCRIPTORS:**

\* micelle ; \*chirality; \*micellar electrokinetic chromatography

11/3,K/8 (Item 2 from file: 73)

DIALOG(R)File 73:EMBASE

(c) 2003 Elsevier Science B.V. All rts. reserv.

10656112 EMBASE No: 2000130962

**Enantiomeric separations by use of polymeric surfactant electrokinetic chromatography**

Yarabe H.H.; Billiot E.; Warner I.M.

I.M. Warner, Department of Chemistry, Louisiana State University, Baton Rouge, LA 70803 United States

AUTHOR EMAIL: isiah.warner@chemgate.chem.lsu.edu

Journal of Chromatography A ( J. CHROMATOGR. A ) (Netherlands) 14 APR 2000, 875/1-2 (179-206)

CODEN: JCRAE ISSN: 0021-9673

PUBLISHER ITEM IDENTIFIER: S0021967300000649

DOCUMENT TYPE: Journal; Review

LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH

NUMBER OF REFERENCES: 71

**Enantiomeric separations by use of polymeric surfactant electrokinetic chromatography**

Yarabe H.H.; Billiot E. ; Warner I.M.

This review surveys the enantiomeric separation of drugs by electrokinetic chromatography using polymeric chiral surfactant pseudostationary phases. These phases have recently been shown to provide better mass transfer and increased rigidity and stability than regular micelles in micellar capillary electrophoresis. Characterization of the polymeric chiral surfactants is presented. Solution interactions of the pseudostationary phases via thermodynamics and fluorescence probe studies are evaluated. Also, case studies of enantiomeric separation of drugs using a single amino acid surfactant and the synergistic effect of the addition of gamma-cyclodextrin to the buffer is discussed. The use of dipeptide surfactants for chiral drug separations is described as well. Copyright (C) 2000 Elsevier Science B.V.

## DRUG DESCRIPTORS:

\* surfactant ; \*polymer; \*drug--drug analysis--an

## MEDICAL DESCRIPTORS:

micelle ; comparative study; hydrophobicity; hydrogen bond; technique; nonhuman; review; priority journal

11/3,K/9 (Item 3 from file: 73)

DIALOG(R)File 73:EMBASE

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07926181 EMBASE No: 1999399583

**Chiral electrokinetic chromatography using dipeptide polymeric surfactants: Present state of the art**

Haddadian F.; Shamsi S.A.; Warner I.M.

Dr. I.M. Warner, Department of Chemistry, Louisiana State University, Baton Rouge, LA 70803 United States

AUTHOR EMAIL: isiah.warner@chemgate.chem.lsu.edu

Electrophoresis ( ELECTROPHORESIS ) (Germany) 1999, 20/15-16 (3011-3026)

CODEN: ELCTD ISSN: 0173-0835

DOCUMENT TYPE: Journal; Review

LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH

NUMBER OF REFERENCES: 38

**Chiral electrokinetic chromatography using dipeptide polymeric surfactants: Present state of the art**

Haddadian F.; Shamsi S.A. ; Warner I.M.

...have been recently employed as pseudostationary phases in capillary electrophoresis. These phases are effective for chiral separation of analytes in different charge states and hydrophobicities. This review paper focuses on polymeric dipeptide surfactants. The benefits of dipeptide over single amino acid micelle polymers are shown. Some aspects of dipeptide surfactants that are presented here includes the amino acid order, effect of number and position of chiral centers, and steric factors on enantiomeric separation of chiral compounds in different charge states. In addition, the preferential site of interaction of the chiral analyte using diastereomers of polymeric dipeptide surfactants is discussed.

## DRUG DESCRIPTORS:

\* dipeptide ; \*polymer; \* surfactant

## MEDICAL DESCRIPTORS:

\* chiral chromatography; \*micellar electrokinetic chromatography

11/3,K/10 (Item 1 from file: 399)

DIALOG(R)File 399:CA SEARCH(R)

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136340990 CA: 136(22)340990m JOURNAL

**Comparison of the Aggregation Behavior of 15 Polymeric and Monomeric Dipeptide Surfactants in Aqueous Solution**

AUTHOR(S): Billiot, Fereshteh Haddadian; McCarroll, Matthew; Billiot, Eugene J.; Rugutt, Joseph K.; Morris, Kevin; Warner, Isiah M.  
LOCATION: Department of Physical and Life Science, Texas A&M University-Corpus Christi, Corpus Christi, TX, 78412, USA  
JOURNAL: Langmuir DATE: 2002 VOLUME: 18 NUMBER: 8 PAGES: 2993-2997  
CODEN: LANGD5 ISSN: 0743-7463 PUBLISHER ITEM IDENTIFIER: 0743-7463(01)01059-9 LANGUAGE: English PUBLISHER: American Chemical Society

11/3,K/11 (Item 2 from file: 399)  
DIALOG(R)File 399:CA SEARCH(R)  
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133106601 CA: 133(8)106601b JOURNAL  
Chiral separation with dipeptide-terminated polymeric surfactants: the effect of an extra heteroatom on the polar head group  
AUTHOR(S): Haynes, Judson L., III; Billiot, Eugene J.; Yarabe, Hyacinthe H.; Warner, Isiah M.; Shamsi, Shahab A.  
LOCATION: Department of Chemistry, Louisiana State University, Baton Rouge, LA, 70803, USA  
JOURNAL: Electrophoresis DATE: 2000 VOLUME: 21 NUMBER: 8 PAGES: 1597-1605 CODEN: ELCTDN ISSN: 0173-0835 LANGUAGE: English PUBLISHER: Wiley-VCH Verlag GmbH  
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T S15/3,K/ALL

>>>KWIC option is not available in file(s): 399

**15/3,K/1 (Item 1 from file: 34)**

DIALOG(R)File 34:SciSearch(R) Cited Ref Sci  
(c) 2003 Inst for Sci Info. All rts. reserv.

11362884 Genuine Article#: 642DH No. References: 28

**Title: Polysodium N-undecanoyl-L-leucylvalinate: A versatile chiral selector for micellar electrokinetic chromatography**

Author(s): Shamsi SA; Valle BC; Billiot F; Warner IM (REPRINT)  
Corporate Source: Louisiana State Univ, Dept Chem, Baton Rouge//LA/70803 (REPRINT); Louisiana State Univ, Dept Chem, Baton Rouge//LA/70803; Georgia State Univ, Dept Chem, Ctr Biotechnol & Drug Design, Atlanta//GA/30303

Journal: ANALYTICAL CHEMISTRY, 2003, V75, N3 (FEB 1), P379-387

ISSN: 0003-2700 Publication date: 20030201

Publisher: AMER CHEMICAL SOC, 1155 16TH ST, NW, WASHINGTON, DC 20036 USA

Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

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Author(s): Shamsi SA ; Valle BC; Billiot F; Warner IM (REPRINT)

Abstract: Dipeptide micelle polymers are a new class of polymeric surfactants of which the polysodium undecanoyl-L-leucylvalinate (poly-L-SULV) was found to be a broadly applicable chiral selector for micellar electrokinetic chromatography. This negatively charged dipeptide micelle polymer is a high molecular weight compound with large countercurrent mobility, zero critical micelle concentration, low aggregation number, and high solubility in water or water-organic solvents. In an extensive chiral screening program, enantioseparation of 75 racemic compounds was tested with poly-L-SULV as chiral pseudostationary phase in neutral pH and basic pH background electrolytes. A total of 58 out...

...compounds could be resolved after choosing an appropriate concentration of poly-L-SULV. Although anionic chiral analytes are difficult to resolve using poly-L-SULV, the percent success rate for chiral resolution of cationic (77%) and neutral (85%) racemates was very high. Aspects regarding electrostatic, steric, hydrophobic, and hydrogen-bonding interactions of this dipeptide micelle polymer with various classes of chiral analytes are discussed.

...Identifiers--POLYMERIC DIPEPTIDE SURFACTANTS; IONIZATION MASS-SPECTROMETRY; AMINO-ACID ORDER; CAPILLARY ELECTROPHORESIS; PSEUDOSTATIONARY PHASE; ANIONIC SURFACTANT ; STERIC FACTORS; SEPARATIONS; ENANTIOSELECTIVITY; CENTERS

**15/3,K/2 (Item 2 from file: 34)**

DIALOG(R)File 34:SciSearch(R) Cited Ref Sci  
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11207852 Genuine Article#: 621GH No. References: 38

**Title: Pulsed field gradient NMR investigation of solubilization equilibria in amino acid and dipeptide terminated micellar and polymeric surfactant solutions**

Author(s): Hickok RS; Wedge SA; Hansen AL; Morris KF (REPRINT) ; Billiot FH ; Warner IM

Corporate Source: Carthage Coll, Dept Chem, Kenosha//WI/53140 (REPRINT); Carthage Coll, Dept Chem, Kenosha//WI/53140; Texas A&M Univ, Dept Chem, Corpus Christi//TX/78412; Louisiana State Univ, Dept Chem, Baton Rouge//LA/70803

Journal: MAGNETIC RESONANCE IN CHEMISTRY, 2002, V40, N12 (DEC), P755-761

ISSN: 0749-1581 Publication date: 20021200

Publisher: JOHN WILEY & SONS LTD, BAFFINS LANE CHICHESTER, W SUSSEX PO19  
1UD, ENGLAND  
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

**Title: Pulsed field gradient NMR investigation of solubilization equilibria in amino acid and dipeptide terminated micellar and polymeric surfactant solutions**

Author(s): Hickok RS; Wedge SA; Hansen AL; Morris KF (REPRINT) ; Billiot FH ; Warner IM

...Abstract: used to investigate the association of toluene, chlorobenzene and benzyl alcohol with amino acid and dipeptide terminated polymerized surfactants (PS). The diffusion coefficient for each probe was measured in the presence...

...f(b), was calculated. For all solutions investigated, the probes associated more strongly with unpolymerized surfactant micelles than with corresponding PS. For example, the toluene f(b) values for association with...

...and to the fact that these PS have smaller aggregation numbers than the corresponding unpolymerized surfactant micelles. Copyright (C) 2002 John Wiley Sons, Ltd.

...Identifiers--SODIUM DODECYL-SULFATE; PSEUDO-STATIONARY PHASES; ELECTROKINETIC CHROMATOGRAPHY; SELF-DIFFUSION; CHIRAL SEPARATIONS; SPIN-ECHO; MAGNETIC-RESONANCE; SPECTROSCOPY; ASSOCIATION; SELECTIVITY

15/3,K/3 (Item 3 from file: 34)

DIALOG(R)File 34:SciSearch(R) Cited Ref Sci  
(c) 2003 Inst for Sci Info. All rts. reserv.

10134944 Genuine Article#: 489LH No. References: 42

**Title: Micellar electrokinetic chromatography-mass spectrometry using a polymerized chiral surfactant**

Author(s): Shamsi SA (REPRINT)

Corporate Source: Georgia State Univ, Dept Chem, Ctr Biotechnol & Drug Design, 38 Peach Tree Ctr Ave/Atlanta//GA/30303 (REPRINT); Georgia State Univ, Dept Chem, Ctr Biotechnol & Drug Design, Atlanta//GA/30303

Journal: ANALYTICAL CHEMISTRY, 2001, V73, N21 (NOV 1), P5103-5108

ISSN: 0003-2700 Publication date: 20011101

Publisher: AMER CHEMICAL SOC, 1155 16TH ST, NW, WASHINGTON, DC 20036 USA

Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

**Title: Micellar electrokinetic chromatography-mass spectrometry using a polymerized chiral surfactant**

Author(s): Shamsi SA (REPRINT)

Abstract: The coupling of chiral micellar electrokinetic chromatography (CMEKC) to mass spectrometry (MS) using conventional surfactant [above the critical micelle concentration (cmc)] is very challenging. Preliminary investigation in this laboratory indicates that the use of a chiral polymeric surfactant provides one possible solution to this difficult coupling. This is because of many positive attributes of micelle polymers which include zero cmc, lower surface activity, low volatility, high electrophoretic mobility, and function...

...MS parameters (nebulizer pressure, sheath flow rate) were found to have a significant impact on chiral resolution of (+/-)BOH. At the optimum ESI-MS conditions, the enantioseparation of (+/-)BOH was successfully...

...Identifiers--CAPILLARY ZONE ELECTROPHORESIS; AMINO-ACID ORDER; DIPEPTIDE SURFACTANTS; STATIONARY PHASES; RISTOCETIN-A; SEPARATIONS; VANCOMYCIN; CYCLODEXTRINS; ENANTIOMERS; SELECTOR

15/3,K/4 (Item 4 from file: 34)

DIALOG(R)File 34:SciSearch(R) Cited Ref Sci  
(c) 2003 Inst for Sci Info. All rts. reserv.

08478873 Genuine Article#: 290PJ No. References: 99

**Title: Polymeric surfactants as pseudo-stationary phases for separations in electrokinetic chromatography (EKC): A review**

Author(s): Haynes JL; Warner IM

Corporate Source: LOUISIANA STATE UNIV,DEPT CHEM/BATON ROUGE//LA/70803;

GEORGIA STATE UNIV,DEPT CHEM/ATLANTA//GA/30303

Journal: REVIEWS IN ANALYTICAL CHEMISTRY, 1999, V18, N6, P317-382

ISSN: 0048-752X Publication date: 19990000

Publisher: FREUND PUBLISHING HOUSE LTD, STE 500, CHESHAM HOUSE, 150 REGENT ST, LONDON W1R 5FA, ENGLAND

Language: English Document Type: REVIEW

Author(s): Haynes JL; Warner IM

...Identifiers--ELECTROPHORESIS MASS-SPECTROMETRY; CAPILLARY ZONE

ELECTROPHORESIS; ELECTROSPRAY-IONIZATION INTERFACE; TERMINAL

DOUBLE-BOND; CHIRAL SEPARATIONS; PSEUDOSTATIONARY PHASE; STARBURST

DENDRIMERS; IONIC SURFACTANT ; MICELLE POLYMERS; LIQUID-JUNCTION

15/3,K/5 (Item 1 from file: 73)

DIALOG(R)File 73:EMBASE

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11957278 EMBASE No: 2003068356

**Polysodium N-undecanoyl-L-leucylvalinate: A versatile chiral selector for micellar electrokinetic chromatography**

Shamsi S.A.; Valle B.C.; Billiot F.; Warner I.M.

I.M. Warner, Department of Chemistry, Louisiana State University, Baton Rouge, LA 70803 United States

AUTHOR EMAIL: isiah.warner@chemgate.chem.lsu.edu

Analytical Chemistry ( ANAL. CHEM. ) (United States) 01 FEB 2003, 75/3 (379-387)

CODEN: ANCHA ISSN: 0003-2700

DOCUMENT TYPE: Journal ; Article

LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH

NUMBER OF REFERENCES: 28

**Polysodium N-undecanoyl-L-leucylvalinate: A versatile chiral selector for micellar electrokinetic chromatography**

Shamsi S.A. ; Valle B.C.; Billiot F.; Warner I.M.

Dipeptide micelle polymers are a new class of polymeric surfactants of which the polysodium undecanoyl-L-leucylvalinate (poly-L-SULV) was found to be a broadly applicable chiral selector for micellar electrokinetic chromatography. This negatively charged dipeptide micelle polymer is a high molecular weight compound with large countercurrent mobility, zero critical micelle concentration, low aggregation number, and high solubility in water or water-organic solvents. In an extensive chiral screening program, enantioseparation of 75 racemic compounds was tested with poly-L-SULV as chiral pseudostationary phase in neutral pH and basic pH background electrolytes. A total of 58 out...

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DRUG DESCRIPTORS:

polymer; dipeptide ; surfactant ; water; organic solvent; electrolyte;  
unclassified drug  
MEDICAL DESCRIPTORS:  
\* micelle ; \*chirality; \*micellar electrokinetic chromatography

15/3,K/6 (Item 2 from file: 73)  
DIALOG(R)File 73:EMBASE  
(c) 2003 Elsevier Science B.V. All rts. reserv.

10656112 EMBASE No: 2000130962  
**Enantiomeric separations by use of polymeric surfactant electrokinetic chromatography**

Yarabe H.H.; Billiot E.; Warner I.M.  
I.M. Warner, Department of Chemistry, Louisiana State University, Baton Rouge, LA 70803 United States  
AUTHOR EMAIL: isiah.warner@chemgate.chem.lsu.edu  
Journal of Chromatography A ( J. CHROMATOGR. A ) (Netherlands) 14 APR 2000, 875/1-2 (179-206)  
CODEN: JCRAE ISSN: 0021-9673  
PUBLISHER ITEM IDENTIFIER: S0021967300000649  
DOCUMENT TYPE: Journal; Review  
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH  
NUMBER OF REFERENCES: 71

**Enantiomeric separations by use of polymeric surfactant electrokinetic chromatography**

Yarabe H.H.; Billiot E. ; Warner I.M.

This review surveys the enantiomeric separation of drugs by electrokinetic chromatography using polymeric chiral surfactant pseudostationary phases. These phases have recently been shown to provide better mass transfer and increased rigidity and stability than regular micelles in micellar capillary electrophoresis. Characterization of the polymeric chiral surfactants is presented. Solution interactions of the pseudostationary phases via thermodynamics and fluorescence probe studies are evaluated. Also, case studies of enantiomeric separation of drugs using a single amino acid surfactant and the synergistic effect of the addition of gamma-cyclodextrin to the buffer is discussed. The use of dipeptide surfactants for chiral drug separations is described as well. Copyright (C) 2000 Elsevier Science B.V.

DRUG DESCRIPTORS:

\* surfactant ; \*polymer; \*drug--drug analysis--an

MEDICAL DESCRIPTORS:

micelle ; comparative study; hydrophobicity; hydrogen bond; technique; nonhuman; review; priority journal

15/3,K/7 (Item 3 from file: 73)  
DIALOG(R)File 73:EMBASE  
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07926181 EMBASE No: 1999399583  
**Chiral electrokinetic chromatography using dipeptide polymeric surfactants: Present state of the art**

Haddadian F.; Shamsi S.A.; Warner I.M.  
Dr. I.M. Warner, Department of Chemistry, Louisiana State University, Baton Rouge, LA 70803 United States  
AUTHOR EMAIL: isiah.warner@chemgate.chem.lsu.edu  
Electrophoresis ( ELECTROPHORESIS ) (Germany) 1999, 20/15-16 (3011-3026)  
CODEN: ELCTD ISSN: 0173-0835  
DOCUMENT TYPE: Journal; Review  
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH  
NUMBER OF REFERENCES: 38

**Chiral electrokinetic chromatography using dipeptide polymeric surfactants: Present state of the art**

Haddadian F.; Shamsi S.A. ; Warner I.M.

...have been recently employed as pseudostationary phases in capillary electrophoresis. These phases are effective for chiral separation of analytes in different charge states and hydrophobicities. This review paper focuses on polymeric dipeptide surfactants. The benefits of dipeptide over single amino acid micelle polymers are shown. Some aspects of dipeptide surfactants that are presented here includes the amino acid order, effect of number and position of chiral centers, and steric factors on enantiomeric separation of chiral compounds in different charge states. In addition, the preferential site of interaction of the chiral analyte using diastereomers of polymeric dipeptide surfactants is discussed.

**DRUG DESCRIPTORS:**

\* dipeptide ; \*polymer; \* surfactant

**MEDICAL DESCRIPTORS:**

\* chiral chromatography; \*micellar electrokinetic chromatography

**15/3,K/8 (Item 1 from file: 399)**

DIALOG(R)File 399:CA SEARCH(R)

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**136340990 CA: 136(22)340990m JOURNAL**

**Comparison of the Aggregation Behavior of 15 Polymeric and Monomeric Dipeptide Surfactants in Aqueous Solution**

AUTHOR(S): Billiot, Fereshteh Haddadian; McCarroll, Matthew; Billiot, Eugene J.; Rugutt, Joseph K.; Morris, Kevin; Warner, Isiah M.

LOCATION: Department of Physical and Life Science, Texas A&M University-Corpus Christi, Corpus Christi, TX, 78412, USA

JOURNAL: Langmuir DATE: 2002 VOLUME: 18 NUMBER: 8 PAGES: 2993-2997

CODEN: LANGD5 ISSN: 0743-7463 PUBLISHER ITEM IDENTIFIER: 0743-7463(01)01059-9 LANGUAGE: English PUBLISHER: American Chemical Society

**15/3,K/9 (Item 2 from file: 399)**

DIALOG(R)File 399:CA SEARCH(R)

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**133106601 CA: 133(8)106601b JOURNAL**

**Chiral separation with dipeptide-terminated polymeric surfactants: the effect of an extra heteroatom on the polar head group**

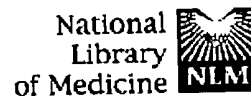
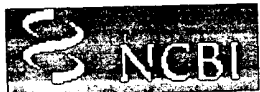
AUTHOR(S): Haynes, Judson L., III; Billiot, Eugene J.; Yarabe, Hyacinthe H.; Warner, Isiah M.; Shamsi, Shahab A.

LOCATION: Department of Chemistry, Louisiana State University, Baton Rouge, LA, 70803, USA

JOURNAL: Electrophoresis DATE: 2000 VOLUME: 21 NUMBER: 8 PAGES: 1597-1605 CODEN: ELCTDN ISSN: 0173-0835 LANGUAGE: English PUBLISHER: Wiley-VCH Verlag GmbH

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